



Olimex - AT90USB162 - USB - Evaluation Board

Product Overview:

AT90USB162 is the easiest way to add USB functionality to your next device, Atmel provide free open source HID (mouse, keyboard) and CDC (USB-to-RS232) code and on top of this AT90USB162 cost is same as ATmega16, so what you are waiting for? AVR-USB-STK board allows all USB features of AT90USB162 to be explored. The boards have USB connector, Joystick, RS232, SD-MMC card, Audio output, ICSP connector and extension connector. All AT90USB162 come from Atmel pre-programmed with boot loader which allow code to be programmed inside the chip without any external programmer, just download the FLIP software



from Atmel web site and load your HEX code inside AT90USB162. To enter the boot loader mode you should press and hold HWB button, then press and release RST button. If you prefer to use ICSP programmer note that only AVR-ISP-MK2 is supporting AT90USB162 as there are pretty new devices, probably AVR Dude will add support later, but for the moment you can't use AVR-PG1 or AVR-PG2 for ICSP programming, another bad news is that AT90USB162 supports only debug Wire not JTAG so to debug it you should have the expensive AT-JTAGICE-MK2.

Key Features:

- AT90USB162 microcontroller with 16KB Flash, 512B RAM, 512B EEPROM
- ICSP 5x2 pin connector for in-circuit programming with AVR-ISP-MK2 (you generally don't need to use ICSP as you can program via USB)
- Debug Wire could be performed by 3 wires connected to ICSP (AT-JTAGICE-MK2 have such loose wire connector which to be used, you need VCC, GND, RST signals only)
- USB 2.0 Full speed connector
- RS232 driver and connector
- SD-MMC card connector
- Audio out 3.5 mm jack connector
- Extension connector with AVR port signals
- status LED
- Joystick

- user button HWB (can be used to enter boot loader mode after reset)
- reset button RST
- takes power from USB no need for external adapter
- external power supply and voltage regulator if USB can't provide enough power
- Quartz crystal oscillator circuit 8Mhz
- extension pin headers for each uC pin
- four mounting holes 3.3 mm (0.13")
- Grid 100 mils
- GND bus
- Vcc bus
- FR-4, 1.5 mm (0,062"), green solder mask, white silkscreen component print
- dimensions 100x80 mm (3.9x3.15")

Ordering Information:

Products:

Part Number	Manufacturer	Farnell P/N	Newark P/N
AVR-USB-STK	Olimex	1701519	25R4415

Associated Products:

Part Number	Manufacturer	Description	Farnell P/N	Newark P/N
AT90USB162	Atmel	8-bit Microcontroller with USB Controller	1455073	58M3868
MAX3232	Maxim	RS232 transceivers	1287435	68K4626
TS4871	ST	1W, Class AB, Audio Amplifier	1564352	89K1749
LM1117DT-ADJ	National Semiconductor	Voltage Regulator	1364485	41K3426
8100	Videk	DB9 Plug	1525738	NA

Similar Products:

Part Number	Manufacturer	Description	Support Device	Farnell P/N	Newark P/N
ATEVK525	Atmel	AVR USB Mass Storage Add-on	AT90USBxxx	1637768	03P4010
AVR-MT128	Olimex	AVR USB Board	AT90USB162	1776316	25R4413

Document List:

Datasheets:

Part Number	Description	Size
AT90USB162	8-bit Microcontroller with Flash and USB Controller	3.28MB
MAX3232	RS-232 Transceivers	752KB
TS4871	1W, Class AB, Audio Amplifier	1.45MB
LM1117DT-ADJ	800mA Low-Dropout Linear Regulator	647KB

Application Notes:

File Name	Size
AVR040: EMC Design Considerations	105KB
AVR042: AVR Hardware Design Considerations	196KB
AVR103: Using the EEPROM Programming Modes	76KB
AVR105: Power efficient high endurance parameter storage in Flash memory	145KB
AVR130: Setup and use the AVR Timers	179KB

Hardware & Software:

File Name	Size
AVR-USB-STK-SCH-REV-A.pdf	370KB
avr-icsp-10.gif	1.29KB
AVR-USB-STK-MOUSE.zip	1.84MB
AVR-USB-STK-CDC.zip	1.49MB
AVR-USB-STK-MASS-STORAGE.zip	158KB
AVR-USB-STK-DEMO.zip	154KB